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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/758,305

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Bruce M. Harper

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10/08/2008

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EXAMINER

WOLLSCHLAGER, JEFFREY MICHAEL

ART UNIT

PAPER NUMBER

1791

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/758,305

Applicant(s)

HARPER ET AL.

Examiner

JEFFREY WOLLSCHLAGER

Art Unit

1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SE/US)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

Applicant's amendment to the claims filed June 23, 2008 has been entered. Claims 14, 18 and 20 are currently amended. Claims 14-24 are pending and under examination.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 14-16 and 19 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Tokisue et al. (US 5,077,888).

Regarding claim 14, Tokisue et al. teach a method of mounting discs on a spindle of a magnetic disc file (reasonably interpreted to be a nest) wherein the disc (1) having a central hole is positioned over the spindle (Figure 1 and Figure 4; col. 2, lines 10-30). Tokisue et al. further teach that the disc may be guided into close proximity of the spindle by blowing air through the edge of the central hole of the disc so that the disc may be fitted onto the spindle in a completely non-contact manner (col. 5, lines 28-32). The examiner submits that the direction the air is blown from the apparatus to the hole of the disk is necessarily at an "angle" (i.e. it is angled), thereby anticipating the claim. Alternatively, the examiner submits that it would have been obvious to one having ordinary skill in the art at the time of the claimed invention, in view of the teaching and stated purpose of Tokisue et al. (i.e. guide the disc on the spindle in a non-contact manner with blown air), to have determined how to position the blow holes from the

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apparatus relative to the disc (i.e. choose the angle) in order achieve the stated purpose of Tokisue et al.

As to claims 15 and 16, Tokisue et al. position the disc through the use of vacuum and pressurized gas distributed around a manifold in order to cause the disc to float/be suspended (Figure 2; col. 4, lines 2-16 and 42-64).

As to claim 19, Tokisue et al. center the disc (col. 5, lines 1-14).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 17 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tokisue et al. (US 5,077,888), as applied to claims 14-16 and 19 above, in view of Allen et al. (US 5,915,915).

As to claims 17 and 23, Tokisue et al. teach the method of claim 16 set forth above. Tokisue et al. do not expressly teach employing a second port to supply the plurality of

holes/jets through the edge of the central hole (col. 5, lines 28-32). Tokisue et al. is silent as to whether the air for the central hole is from the same supply that is employed to position/carry the disc or whether it is from a different supply/port. However, Tokisue et al. do teach an embodiment where a different supply of air is employed when it is utilized for a purpose other than positioning/carrying the disc; namely, when used for contaminant control (Figure 7 and Figure 8; col. 6, lines 10-24). Further, Allen et al. analogously teach a method wherein different supplies/ports are provided for carrying/positioning the disc and blowing air through the hole of the disc (Abstract; Figure 10).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have modified the method of Tokisue et al. and to have employed the suggestion of a different embodiment of Tokisue et al. to utilize a different supply/port of air when supplying the air to the air holes/jets directed to the central hole of the disc than the supply/port employed to supply the air for positioning/carrying the disc for the purpose of effectively controlling the operations of the different steps. Further, it would have been *prima facie* obvious to have modified the method of Tokisue et al. and to have utilized a different port for supplying air to the central hole, as suggested by Allen et al., for the purpose of effectively controlling the operations of the different steps of Tokisue et al. (e.g. positioning/carrying the disc and guiding it onto the spindle).

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tokisue et al. (US 5,077,888), as applied to claims 14-16 and 19 above, in view of Goodwin et al. (US 5,080,549).

As to claim 18, Tokisue et al. teach the method set forth above. Tokisue et al. do not expressly state that the low and positive gas pressures produce a Bernoulli effect. However,

Goodwin et al. teach a method of handling a wafer/disc wherein a Bernoulli effect is created (Abstract).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have modified the method of Tokisue et al. and to have produced a Bernoulli effect to carry the disc, as suggested by Goodwin et al., since Goodwin et al. suggest such a method is an equivalent alternative means known in the art for creating a low and positive gas pressure that is suitable for carrying a wafer/disc.

Claims 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tokisue et al. (US 5,077,888), as applied to claims 14-16 and 19 above, in view of Davis (U.S. Patent Application Publication 2002/0025408) and Granneman et al. (WO 98/01890).

As to claims 20-22, Tokisue et al. teach the method of claim 14 as set forth above. Tokisue et al. do not teach maintaining the gas at an elevated temperature or utilizing the contactless carrying and guiding method to nano-imprint an embossable film above the disc substrate. However, Davis teaches a method of nano-imprinting an embossable film upon a disc, such as optical, magnetic and magneto-optic discs, by heating the disc prior to placing/positioning the disc in the mold/nest (Abstract; paragraphs [0004-0006; 0009-0010; and 0072-0079] and Grannemen et al. disclose a method and apparatus for contactless heating of a substrate by directing heated gas at the substrate to both heat the substrate and to support it within the apparatus (Abstract; Figures 1 and 2).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have modified the contactless carrying and guiding method of Tokisue et al. and to have maintained the gas at an elevated temperature and to have utilized the contactless carrying and guiding method of Tokisue et al. to facilitate a nano-imprinting

process as suggested by Davis and Granneman et al. for the purpose of realizing Tokisue et al.'s benefit of reduced contamination and disc damage in various disc processing applications such as the nano-imprinting method set forth by Davis. Further, Granneman et al. suggest the advantages of contactless heating of a substrate with gas prior to processing (page 1, lines 16-36). It would have been obvious to have employed heated air, as suggested by Granneman et al., in the process of Tokisue et al. for the purpose of eliminating a separate heating step prior to additional processing.

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tokisue et al. (US 5,077,888), as applied to claims 14-16 and 19 above, in view of Bailey et al. (U.S. Patent 6,696,220).

As to claim 24, Tokisue et al. teach the method of claim 19 above and further employ stop members (23) to limit movement of the disc (col. 4, lines 21-29), but do not expressly disclose controlling movement of the disc with a plurality of rods coupled to actuators. However, Bailey et al. disclose an analogous method of centering a substrate with a plurality of rods coupled to actuators (e.g. piezo actuators; Figure 51 (5103); Figure 38; col. 25, lines 17-37).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have employed the piezo actuators disclosed by Bailey et al. while practicing the method of Tokisue et al. for the purpose of providing fine adjustment and positioning of the disc in an art recognized suitable manner.

Response to Arguments

Applicant's arguments filed June 23, 2008 have been fully considered, but they are not persuasive. Regarding claim 14, applicant argues appear to suggest that Tokisue et al. do not

teach "directing" gas into the inner diameter hole of the disk, but that gas merely enters the hole of the disk passively. This argument is not persuasive. The examiner submits that Tokisue et al. explicitly teach blowing air to (i.e. directing) the edge of the central hole (col. 5, lines 28-32). The examiner maintains that the interpretation employed in the office action appears to be the clear intent of this passage in Tokisue et al.

Applicant further argues that Tokisue et al. do not enable what they teach regarding applying gas to the inner diameter hole of the disk. This argument is not persuasive. The examiner notes that Tokisue et al. disclose means of directing air throughout the disclosure. Further, Figures 7 and 8 give a suggestion of what such a specific embodiment may look like.

Finally regarding claim 14, applicant argues that Tokisue et al. do not teach the gas is directed at an "angle". This argument is not persuasive. The examiner notes that whatever position the air is directed from the head of Tokisue et al. toward the disk would be "angled". Applicant argues that one reading Tokisue et al. would likely employ a perpendicular air hole. The examiner submits that perpendicular (i.e. 90 degrees) is "angled". Further, and in an alternative interpretation, the examiner submits that it would have been obvious to one having ordinary skill in the art, in view of the teaching of Tokisue et al. to determine how to position the air hole of Tokisue et al. to achieve the stated desired effect of Tokisue et al. (i.e. fit the disk on the spindle in a non-contact manner).

Regarding claim 18, applicant argues there is no motivation to combine the references because Goodwin teaches away from the use of lateral guard rails while Tokisue et al. employ lateral guard rails (i.e. stop members). This argument is not persuasive. The examiner notes that Tokisue et al. is the primary reference and is modified by Goodwin. The examiner maintains that the combination suggests at least that Goodwin discloses an equivalent and

alternative method of positioning the disk. Further, Goodwin teaches the method greatly reduces particle contamination and accumulation (col. 3, lines 6-31).

Further regarding claim 18, applicant argues the combination would require a substantial redesign and reconstruction of the elements. This argument is not persuasive. The examiner notes that Goodwin also teaches the method reduces particle contamination. Such a benefit, would motivate the artisan to modify the teaching of Tokisue et al. Further, the examiner submits that utilizing the method of Goodwin to create the low/high pressure effect to replace the method employed by Tokisue et al. to create the low/high pressure effect does not appear to require a substantial redesign.

Regarding claim 20, applicant argues that the examiner has mischaracterized the cited references as being non-contact and appears to conclude that as such the combination would impermissibly render at least one of the cited references unsatisfactory for its intended purpose. Accordingly, applicant concludes there is no motivation to make the combination. This argument is not persuasive. The examiner maintains the combination for the reasons set forth above. The examiner further notes that it is unclear in the argument what is rendered unsatisfactory in Tokisue et al. by the combination. It is the examiner's position that the claims would need to be amended to overcome the rejection absent persuasive evidence.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFREY WOLLSCHLAGER whose telephone number is (571)272-8937. The examiner can normally be reached on Monday - Thursday 6:45 - 4:15, alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on 571-272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. W./
Examiner, Art Unit 1791
October 9, 2008

/Monica A Huson/
Primary Examiner, Art Unit 1791